REMARKS

This amendment is responsive to the Office Action of August 18, 2008. Reconsideration and allowance of **claims 1-16** are requested.

The Office Action

Claims 1-6 and 9-10 were rejected under 35 U.S.C. 102(b) as being anticipated by Izatt et al. (U.S. Patent No. 6,002,480).

Claims 1-10 were rejected under 35 U.S.C. 102(b) as being anticipated by Richards-Kortum et al. (U.S. Patent No. 6,370,422).

Claim 11 was rejected under 35 U.S.C. 103(a) as being unpatentable over Izatt.

The Present Application

The present application is directed to a spectroscopic analysis apparatus for analyzing objects such as the blood of a patient. The apparatus comprises an excitation system which sweeps an excitation beam across a target region. Scattered radiation is used to generate an image of the target region which image is analyzed to locate a blood vessel(s) or other region of interest. A control unit controls either the excitation system to excite only the region of interest or an analyzer to analyze only radiation that is scattered as the blood in the region of interest is excited.

The present application has the advantage that based on the image information a target region can be zoomed to a particular pixel and each pixel from the target region can be individually recorded.

The above description of the present application is presented to the Examiner as background information to assist the Examiner in understanding the application. The above description is not used to limit the claims in any way.

The References of Record

Izatt et al. is directed to an OCT data acquisition system including a interferometer for determining depth resolved back-scatter characteristics of scatters within a sample. The interferometer includes a radiation source, a fiber optic beam splitter to separate the beam into two beams; one transmitted to a sample arm and one

transmitted to a reference arm, and a photo detector to receive back the reflected light from the sample in order to determine the scatter characteristics.

Richards-Kortum et al. is directed to an apparatus for a fiber optic imaging system which provides the resolution necessary to permit the detection and diagnosis of lesions in tissues. The system includes a fiber optic confocal microscope which comprises a plurality of optical fibers packed side by side in a bundle to form a characteristic image of the sample at the focal plane from the reflected illumination light in real time. The apparatus utilizes index matching to detect the sample reflection of biological sample in order to analyze the sample.

The Claims Distinguish Patentably Over the References of Record

Claims 1-10 are not anticipated by Izatt et al. or Richards-Kortum et al. These rejections are hereby *traversed.*

More specifically, regarding **claim 1**, Izatt et al. and Richards-Kortum et al. do not disclose "a beam separation unit which separates at least part of elastically scattered radiation from inelastically scattered radiation, said scattered radiation being generated by the excitation beam at the target region", "a monitoring system which generates an image of the target region using the scattered radiation and defines a region of interest in said image", and "a control unit which at least one of controls the excitation system such that only the defined region of interest of the target region is excited or controls the detection system such that only scattered radiation from the defined region of interest is detected."

The Examiner refers Applicant to Fig. 5 element 54, Fig. 5 element 30 and col. 21 lines 36-39 of Izatt et al. which discloses an interferometer comprising a beam splitter which separates the light received from the source into two beams: one beam is transmitted to a sample arm and one beam is transmitted to a reference arm. The light reflected back from the sample arm and the reference arm is then combined and a photo detector produces a signal based on the intensity of the incident electric field. Izatt et al. fail to disclose a beam separation unit which separates elastically scattered radiation from inelastically scatter radiation which are generated by the excitation beam exciting the target region. Additionally, Izatt et al. discloses that the image produced from the interferometer could function in detecting shapes and sizes

of lesions and other medical samples in order to improve the diagnosis of diseases. Izatt et al. does not disclose a montoring system which generates an image of a target region and then uses the image of the target region to define a particular region of interest so only signals from the region of interest are detected.

Additionally, the Examiner refers Applicant to Fig. 2 elements 16, 42, 44, 46, 48 and Fig. 12 of Richards-Kortum et al. which discloses a fiber-optic confocal imaging apparatus comprising a beam splitter which is designed to separate the ghost reflection from the signal light. The beam splitter is used to reflect the light in the near infrared region of the spectrum in order to reduce the amount of ghost reflection from the signal light which would have been detected as a background signal in order to increase the fraction of signal which is passed to the detector. Richards-Kortum et al. fail to disclose a beam separation unit which separates elastically scattered radiation from inelastically scattered radiation which are generated by the excitation beam exciting the target region. Additionally, Richards-Kortum et al. disclose the fiber-optic confocal imaging apparatus having a confocal scanning microscope in order to form a characteristic image of the sample at the focal plane from the reflected illumination light in real time. Richards-Kortum et al. does not disclose that the image produced is then used to define a region of interest so only signals from the region of interest can be detected.

Accordingly it is submitted that independent **claim 1** and **claims 2-10** dependent therefrom distinguish patentable over the references of record.

Claim 11 is patentable over Izatt et al. This rejection is hereby *traversed.*

In regards to **claim 11**, Izatt et al. does not disclose "separating at least part of elastically scattered radiation from inelastically scattered radiation", "generating an image of the target region using the elastically scattered or the inelastically scattered radiation", and "defining a region of interest in said image, controlling the excitation system such that the defined region of interest of the target region is excited and/or controlling the detection system such that signals from the defined region of interest of the target region are detected." The Examiner refers Applicant to Col. 4 lines 15-57 and Col. 5 line 53 through Col. 6 line 22 which discloses an interferometer for determining depth resolved back-scatter characteristics of scatters within a sample. The interferometer includes a radiation source, a fiber

optic beam splitter to separate the beam into two beams; one transmitted to a sample arm and one transmitted to a reference arm, and a photo detectors to receive back the reflected light from the sample in order to produce a image of the sample. Izatt et al. does not disclose separating elastically scattered radiation from inelastically scattered radiation which are generated by the excitation beam exciting the target region. Additionally, Izatt et al. does not use the image of the target region to define a particular region of interest so that only signals from the region of interest are collected. The Examiner asserts that it would have been obvious for one of ordinary skill in the art to use Izatt et al. and chose certain regions as a target area depending on the previous image taken and that this could be accomplished because the image provides a reference point for determining if the correct area is being imaged or if the focal sport size or depth needs to be changed. Examiner has not provided any evidence or suggestion for using an image of a target region to define a particular region of interest and collecting signals only from the region of interest except from using Applicant's disclosure as a template through a hindsight reconstruction of Applicant's claim.

New dependent claims 12-14 have been added to facilitate understanding method claim 11 more easily.

Claims 15 and 16 have been added to provide apparatus protection that in many respects is more limited than claim 1 to distinguish more clearly over the references of record.

CONCLUSION

For the reasons set forth above, it is submitted that **claims 1-16** (all claims) distinguish patentably over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, the Examiner is requested to telephone Thomas Kocovsky at (216) 861-5582.

Respectfully submitted,

Fay Sharpe LLP

Thomas E. Kocovsky, Jr.
Reg. No. 28,383
1100 Superior Avenue
Seventh Floor
Cleveland, OH 44114-2579
(216) 861-5582